@AIR TOXICS LTD.

AN ENVIRONMENTAL ANALYTICAL LABORATORY

COMPREHENSIVE VALIDATION PACKAGE

ATL Applications

INVENTORY SHEET

WORK ORDER # 0909552A

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Completed by:

Kara McKiernan	Kara McKiernan/ Document Control	10/15/09
(Signature)	(Print Name & Title)	(Date)

Air Toxics LTD.
Laboratory Services Since 1989

WORK ORDER #: 0909552A

Work Order Summary

CLIENT:	Mr. Taeko Minegishi Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494	**BILL TO:**	Accounts Payable Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494
PHONE:	800-825-5343	**P.O. #**	16512
FAX:	781-247-4305	**PROJECT #**	16512
DATE RECEIVED:	09/25/2009	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/13/2009		

FRACTION #	NAME	TEST
01A	103160	ATL Applications
02A	103161	ATL Applications
03A	103162	ATL Applications
04A	103164	ATL Applications
05A	103165	ATL Applications
06A	103189	ATL Applications
06AA	103189 Lab Duplicate	ATL Applications
07A	103190	ATL Applications
07AA	103190 Lab Duplicate	ATL Applications
08A	103191	ATL Applications
09A	103192	ATL Applications
10A	103193	ATL Applications
11A	103194	ATL Applications
12A	106663	ATL Applications
13A	106664	ATL Applications
14A	106665	ATL Applications
15A	106666	ATL Applications
16A	Lab Blank	ATL Applications

Continued on next page

WORK ORDER #: 0909552A

Work Order Summary

CLIENT:	Mr. Taeko Minegishi Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494	**BILL TO:**	Accounts Payable Environmental Health & Engineering, Inc. 117 Fourth Avenue Needham, MA 02494
PHONE:	800-825-5343	**P.O. #**	16512
FAX:	781-247-4305	**PROJECT #**	16512
DATE RECEIVED:	09/25/2009	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/13/2009		

FRACTION #	NAME	TEST
16B	Lab Blank	ATL Applications
17A	CCV	ATL Applications

CERTIFIED BY: Linda D. Truman

Laboratory Director

DATE: 10/13/09

LABORATORY NARRATIVE
Nitrogen Dioxide by Radiello 166
Environmental Health & Engineering, Inc.
Workorder# 0909552A

Fifteen Radiello 166 (NO2) samples were received on September 25, 2009. The procedure involves extraction of nitrite from reaction of NO2 with triethanolamine. Absorbance of nitrite is then measured at 537 nm using a spectrophotometer. Results are reported in uG and uG/m3.

Sampling rate of 141 mL/min was provided by the manufacturer.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Results were calculated based on 25 deg C without temperature correction. The actual exposure time was used to calculate sample concentrations and reporting limits.

An exposure time of 20160 minutes was used for the QC samples.

All media used for the sampling were supplied by the client. Blank subtraction was not performed on the sample results since the media used for Method Blanks may be from a different lot than the media used for the samples.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicate as follows:
B - Compound present in laboratory blank greater than reporting limit.
J - Estimated value.
E - Exceeds instrument calibration range.
S - Saturated peak.
Q - Exceeds quality control limits.
U - Compound analyzed for but not detected above the detection limit.
M - Reported value may be biased due to apparent matrix interferences.
N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:
a-File was requantified
b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

0003

Sample Results and Raw Data

AIR TOXICS LTD.

ATL Application # 61 for RAD 166 (Nitrogen Dioxide)

Spectrophotometer

Field Sample I.D.	Lab Sample I.D.	Collection Date	Analysis Date	Dilution Factor	Reporting. Limit (ug)	Reporting. Limit (ug/m3)	Amount (ug)	Amount (ug/m3)
103160	0909552A-01A	9/21/2009	9/29/2009	1.00	0.32	0.22	3.1	2.1
103161	0909552A-02A	9/21/2009	9/29/2009	1.00	0.32	0.22	2.7	1.8
103162	0909552A-03A	9/21/2009	9/29/2009	1.00	0.32	0.22	3.1	2.0
103164	0909552A-04A	9/21/2009	9/29/2009	1.00	0.32	0.22	2.7	1.8
103165	0909552A-05A	NA	9/29/2009	1.00	0.32	0.22	ND	ND
103189	0909552A-06A	9/21/2009	9/29/2009	1.00	0.32	0.23	32	22
103189 Lab Duplicate	0909552A-06AA	9/21/2009	9/29/2009	1.00	0.32	0.23	32	22
103190	0909552A-07A	9/21/2009	9/29/2009	1.00	0.32	0.23	43	30
103190 Lab Duplicate	0909552A-07AA	9/21/2009	9/29/2009	1.00	0.32	0.23	43	30
103191	0909552A-08A	9/21/2009	9/29/2009	1.00	0.32	0.23	7.0	5.0
103192	0909552A-09A	9/21/2009	9/29/2009	1.00	0.32	0.23	38	27
103193	0909552A-10A	9/21/2009	9/29/2009	1.00	0.32	0.23	22	15
103194	0909552A-11A	NA	9/29/2009	1.00	0.32	0.22	ND	ND
106663	0909552A-12A	9/21/2009	9/29/2009	1.00	0.32	0.23	12	8.9
106664	0909552A-13A	9/21/2009	9/29/2009	1.00	0.32	0.23	8.3	5.9
106665	0909552A-14A	9/21/2009	9/29/2009	1.00	0.32	0.23	7.2	5.1
106666	0909552A-15A	9/21/2009	9/29/2009	1.00	0.32	0.23	13	9.6
Method Blank	0909552A-16A	NA	9/29/2009	1.00	0.32	0.22	ND	ND
Method Blank	0909552A-16B	NA	9/29/2009	1.00	0.32	0.22	ND	ND
							%Rec	
CCV	0909552A-17A	NA	9/29/2009	1.00	0.32	0.22	101	

COMMENTS: 1. NA=Not Applicable
2. ND=Not Detected
3. Exposure time of 20160 minutes was assumed for the QC samples.
4. Background subtraction not performed.

Dioxide Radiello Calculation Worksheet

Workorder #:	0909552A	
Sampling Rate (ng/(ppb*min))	0.141	Typically 0.96 for NO2
Sampling T (deg C)	25	Typically 25
Volume (mL)	5	Typically 5 for NO2
Date of Analysis:	9/29/2009	

1000ng/1ug

(Abs-Y-int)xDF	Conc(ug)x5 (mL)	Conc (ug) x 1000	ppbx mw
Slope	0.5mL	Q x Duration	24.45

Corrected Q 0.141 es into account temp

LabSampleID	Client	Date of Collection	Abs	Duration (min)	DF	Conc (ug) (for 0.5mL Aliquot)	Conc (ug) in full 5 mL of sample	Conc (ppb)	Conc (ug/m3)
01A	103160	9/21/2009	0.081	20160	1.00	0.314858768	3.148587683	1.108	2.084
02A	103161	9/21/2009	0.070	20160	1.00	0.26619385	2.661938503	0.936	1.762
03A	103162	9/21/2009	0.080	20160	1.00	0.310434685	3.104346848	1.092	2.055
04A	103164	9/21/2009	0.070	20160	1.00	0.26619385	2.661938503	0.936	1.762
05A	103165	NA	0.007	20160	1.00	-0.012523407	-0.125234072	-0.044	-0.083
06A	103189	9/21/2009	0.724	18720	1.00	3.159544428	31.59544428	11.970	22.521
06AA	103189 Lab Duplicate	9/21/2009	0.725	18720	1.00	3.163968511	31.63968511	11.987	22.552
07A	103190	9/21/2009	0.977	18720	1.00	4.278837541	42.78837541	16.211	30.499
07AA	103190 Lab Duplicate	9/21/2009	0.979	18720	1.00	4.287685708	42.87685708	16.244	30.562
08A	103191	9/21/2009	0.169	18720	1.00	0.704178112	7.04178112	2.668	5.019
09A	103192	9/21/2009	0.881	18720	1.00	3.85412553	38.5412553	14.602	27.471
10A	103193	9/21/2009	0.499	18720	1.00	2.164125651	21.64125651	8.199	15.425
11A	103194	NA	0.011	20160	1.00	0.005172927	0.051729266	0.018	0.034
12A	106663	9/21/2009	0.291	18720	1.00	1.243916293	12.43916293	4.713	8.866
13A	106664	9/21/2009	0.197	18720	1.00	0.828052449	8.280524487	3.137	5.902
14A	106665	9/21/2009	0.172	18720	1.00	0.717450362	7.174503624	2.718	5.114
15A	106666	9/21/2009	0.313	18720	1.00	1.341246129	13.41246129	5.081	9.560
					1.00	-0.043491991	-0.434919913	#DIV/0!	#DIV/0!
					1.00	-0.043491991	-0.434919913	#DIV/0!	#DIV/0!
					1.00	-0.043491991	-0.434919913	#DIV/0!	#DIV/0!
					1.00	-0.043491991	-0.434919913	#DIV/0!	#DIV/0!
					1.00	-0.043491991	-0.434919913	#DIV/0!	#DIV/0!
16A	Method Blank	NA	0.012	20160	1.00	0.00959701	0.095970101	0.034	0.064
16B	Method Blank	NA	0.015	20160	1.00	0.02286926	0.228692604	0.080	0.151
17A	CCV	NA	0.158	20160	1.00	0.655513194	6.555131941	2.306	4.339

QC Duration	CCV Spike Amt ug per 0.5 mL
20160	0.65

nplate Verified by HH and AW on 9/4/09

0007

1000ng/1ug

Low PointxDF	RL(ug)x5 (mL)	RL (ug) x 1000	ppbx mw
	0.5mL	Q x Duration	24.45

Calibration Data — Calibration Date 9/29/2009 — Linear Regression

RL(ug) for 0.5 mL aliquot	RL (ug) in full 5 mL of sample	RL (ppb)	RL (ug/m3)	Result (ug)	Result (ug/m3)	%Rec
0.033	0.325	0.1	0.215	3.148587683	2.083939564	
0.033	0.325	0.1	0.215	2.661938503	1.76184357	
0.033	0.325	0.1	0.215	3.104346848	2.05465811	
0.033	0.325	0.1	0.215	2.661938503	1.76184357	
0.033	0.325	0.1	0.215	ND	ND	
0.033	0.325	0.1	0.232	31.59544428	22.5205233	
0.033	0.325	0.1	0.232	31.63968511	22.55205717	
0.033	0.325	0.1	0.232	42.78837541	30.4985933	
0.033	0.325	0.1	0.232	42.87685708	30.56166105	
0.033	0.325	0.1	0.232	7.04178112	5.019223479	
0.033	0.325	0.1	0.232	38.5412553	27.47134144	
0.033	0.325	0.1	0.232	21.64125651	15.42540175	
0.033	0.325	0.1	0.215	ND	ND	
0.033	0.325	0.1	0.232	12.43916293	8.866356052	
0.033	0.325	0.1	0.232	8.280524487	5.902171939	
0.033	0.325	0.1	0.232	7.174503624	5.1138251	
0.033	0.325	0.1	0.232	13.41246129	9.56010127	
0.033	0.325	#DIV/0!	#DIV/0!	ND	#DIV/0!	
0.033	0.325	#DIV/0!	#DIV/0!	ND	#DIV/0!	
0.033	0.325	#DIV/0!	#DIV/0!	ND	#DIV/0!	
0.033	0.325	#DIV/0!	#DIV/0!	ND	#DIV/0!	
0.033	0.325	#DIV/0!	#DIV/0!	ND	#DIV/0!	
0.033	0.325	0.1	0.215	ND	ND	
0.033	0.325	0.1	0.215	ND	ND	%Rec
0.033	0.325	0.1	0.215	6.555131941	4.338611523	101

0.5 mL Aliquot of Cal STD

ug/ml of NO2	ug of NO2	absorbance
0	0	0
0.065	0.0325	0.012
0.325	0.1625	0.042
1.3	0.65	0.156
6.5	3.25	0.765
13	6.5	1.469

Slope	0.226035519
Y-int	0.009830735
R2	0.999636861

QC Results and Raw Data

Spectrophotometer Logbook **@Air Toxics Ltd.** **Logbook#: 1875**

Work Order: 0909552A **Date:** 9/29/09 **Method:** Rad 166

Analyst: M.S Kidmore **Wavelength:** 537 nm

Standard ID	Concentration	ABS
Level 1 1858-59 - E	0.065 ug/mL	0.012
Level 2 - D	0.325 ug/mL	0.042
Level 3 - C	1.3 ug/mL	0.156
Level 4 - B	6.5 ug/mL	0.765
Level 5 - A	13 ug/mL	1.469
ICV 1858-61	1.3 ug/mL	0.161

r = 0.9996
m = 0.2260
b = 0.00983

ICV % Recovery = 103%

Fraction	Dilution	ABS	Sample ID	Sample Volume	Comments
01A	1.00	0.081	103160	5.0 mL	
02A		0.070	103161		
03A		0.080	103162		
04A		0.070	103164		
05A		0.007	103165		
06A		0.724	103189		
06AA		0.725	103189		
07A		0.977	103190		
07AA		0.979	103190		
08A		0.169	103191		
09A		0.881	103192		
10A		0.499	103193		
11A		0.011	103194		
12A		0.291	106663		
13A		0.197	106664		
14A		0.172	106665		
15A		0.313	106666		
BLK		0.012	N/A		
BLK		0.015			
LCS		0.157			
CCV		0.158			
				MJS 9/30/09	

Procedure:

Signed

9/30/09
Date

Spectrophotometer Standard Preparation Log **@Air Toxics Ltd.** **Log Book #: 1858**

Standard ID: 1858-39
Project: NEDA Solution Rad 166
Analyst: M. Skidmore
Preparation Date: 9/18/09
Expiration Date: ~~9/18/09~~ 11/18/09 when solution turns brown

Solvent: DI H_2O
Solvent Lot #: N/A

Procedure/Comments: Dissolve 250 mg of N-(1-Naphthyl)ethylenediamine dihydrochloride, 98% (14-76-1105, located ERIA) in 250 mL DI H_2O.

MJS
9/18/09

Page 39 Signed 9/18/09 Date Reviewed 9/24/09 Date

Spectrophotometer Standard Preparation Log **@Air Toxics Ltd.** **Log Book #: 1858**

Standard ID: 1858-58
Project: Sulfanilamide Solution Red 166
Analyst: M. Skidmore
Preparation Date: 9/29/09
Expiration Date: 9/29/09

Solvent: HCl/H_2O
Solvent Lot #: HCl: 49198

Procedure/Comments: Dissolve 5.0 g of sulfanilamide, 99% (1476-1104) (located in ERIA) in 50 mL of concentrated HCl and dilute to 500 mL with D.I. H_2O.

9/24/09

Signed 9/29/09 Date

Reviewed 10/5/09 Date

Spectrophotometer Standard Preparation Log **@Air Toxics Ltd.** **Log Book #: 1858**

Standard ID: 1858-59
Project: Calibration Solutions Rad 166
Analyst: M. Skidmore
Preparation Date: 9/29/09
Expiration Date: 9/29/01

Solvent: D.I. H_2O
Solvent Lot #: N/A

Procedure/Comments:

Dissolve 5 mg of Sodium Nitrate, 97% (located in ER2D) in 250 mL of D.I. H_2O to yield 13 µg/mL or 13 mg/L. From this solution, dilute to make:

6.5 µg/mL	1.3 µg/mL	0.325 µg/mL	0.065µg/mL
(315:630)	(130:650)	(150:600)	(100:500)

Each of these uses serial dilution from the previous solution.

To each of these calibration levels, add 5 mL of sulfanilamide solution, cap tightly, stir and wait 5 minutes. Then add 1 mL of NEDA solution, stir and wait 10 minutes. Measure the absorbance at 537 nm.

MJS 9/29/09

MJS
9/29/09

M. O. Skidmore 9/29/09 — 10/5/09

Page 59 Signed Date Reviewed Date

Spectrophotometer Standard Preparation Log

@Air Toxics Ltd. Log Book #: 1858

Standard ID: 1858-61
Project: ICV Rad 166
Analyst: [illegible]
Preparation Date: 9/29/09
Expiration Date: 9/29/09

Solvent: DI H_2O
Solvent Lot #: NA

Procedure/Comments:

Dissolve 5 mg of Sodium Nitrate, 97% (located in ER2D) in 250 mL of D.I. H_2O to yield 13 µg/mL or 13 mg/L. 100 µL of this solution was diluted with D.I. H_2O to a volume of 1.0 mL. 0.5 mL of this solution was added to a cuvette. 5 mL of sulfanilamide solution was added to the cuvette. The solution was parafilmed and stirred and allowed to stand for 5 minutes. 1.0 mL of NEDA solution was then added and was stirred and allowed to sit for 10 minutes. The absorbance was then read at 537 nm.

Signed: [signature] Date: 9/29/09 Reviewed: [signature] Date: 10/9/09 (9/29/09)

Shipping/ Receiving Documents

Air Toxics LTD.
Laboratory Services Since 1989

180 Blue Ravine Road, Suite B
Folsom, CA 95630

Phone (916) 985-1000 FAX (916) 985-1020
Hours 8:00 A.M. to 6:00 P.M. Pacific

COMPANY:	Environmental Health & Engineering, Inc.
ATTENTION:	Mr. Taeko Minegishi
FAX #:	781-247-4305
FROM:	Sample Receiving
Workorder #:	0909552A
# of pages (Including Cover):	4

10/15/2009

Thank you for selecting Air Toxics Ltd. We have received your samples and have found discrepancies. In order to expedite analysis and reporting, please review the attached information for accuracy. Corrections can be faxed to **Ausha Scott at 916-985-1020.**
ATL will proceed with the analysis as specified on the Chain of Custody and Sample Login page.

In accordance with your company's contract, this account is required to have a PO that is fully executed by both parties which also covers the cost of the workorder before any data can be released. Please ensure that you have given all appropriate information to our Project Manager so that there will be no delay in reporting of the data you are requesting.

Your prompt response is appreciated.

Environmental Health & Engineering, Inc.

CHAIN OF CUSTODY FORM

DATE: 9/24/09

FROM: Environmental Health and Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494-2725

0909552

TO: Air Toxics

Please send invoices to ATTN: Accounts Payable
Please send reports to ATTN: Data Coordinator

In all correspondence regarding this matter, please refer to EH&E Project # 16512

The cost of this analysis will be covered by EH&E Purchase Order # 16512

For EH & E Data Coordinator - URGENT DATA ☒

	SAMPLE ID	SAMPLE TYPE	ANALYTICAL METHOD/NUMBER	START	OTHER: Time/Date/Vol. STOP
1A	103160	Air/Passive	NO_2, SO_2, HF Analysis	9/7/09	9/21/09
2A	103161				
3A	103162				
—	~~103163~~				Voided
4A	103164				
5A	103165				
6A	103189			9/8/09	9/21/09
7A	103190				
8A	103191				
9A	103192				
10A	103193				
11A	103194				
12A	106663			9/8/09	9/21/09
13A	106664				
14A	106665				
15A	106666				Fed ex 8701 2332 9427

Special Instructions:

☒ Standard turn around time ☐ Rush by _____ date/time

CUSTODY SEAL INTACT? Y N NONE TEMP 2.3°C

☐ Fax results 781-247-4305

☐ **RETURN SAMPLES** ☒ Electronic transfer - datacoordinator@eheinc.com

☒ Additional report recipient mfragala@eheinc.com

Each signatory please return one copy of this form to the above address

Relinquished by: _____ of Environmental Health & Engineering, Inc. Date: 9/24/09

Received by: _____ of (company name) FH Date: 9/25/09

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Relinquished by: _____ of (company name) _____ Date: _____

Received by: _____ of (company name) _____ Date: _____

Lab Data
Received by: _____ of Environmental Health & Engineering, Inc. Date: _____

WHITE-EH&E FILE COPY YELLOW-LAB COPY PINK-PROJECT MANAGER COPY GOLD-DATA COORDINATOR COPY

Air Toxics LTD.
Laboratory Services Since 1989

SAMPLE RECEIPT SUMMARY

WORKORDER 0909552A

Client

Mr. Taeko Minegishi
Environmental Health &
Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

Phone

800-825-5343

Fax

781-247-4305

Sales Rep: TL

Date Promised: 10/06/09 11:59 pm
Date Completed: 10/13/09
Date Received: 9/25/09
PO#: 16512
Project#: 16512

Total $: $ 675.00
Logged By: MW

Fraction	Sample #	Analysis	Collected	Amount$
01A	103160	ATL Applications	9/21/2009	$40.00
02A	103161	ATL Applications	9/21/2009	$40.00
03A	103162	ATL Applications	9/21/2009	$40.00
04A	103164	ATL Applications	9/21/2009	$40.00
05A	103165	ATL Applications	NA	$40.00
06A	103189	ATL Applications	9/21/2009	$40.00
06AA	103189 Lab Duplicate	ATL Applications	9/21/2009	$0.00
07A	103190	ATL Applications	9/21/2009	$40.00
07AA	103190 Lab Duplicate	ATL Applications	9/21/2009	$0.00
08A	103191	ATL Applications	9/21/2009	$40.00
09A	103192	ATL Applications	9/21/2009	$40.00
10A	103193	ATL Applications	9/21/2009	$40.00
11A	103194	ATL Applications	NA	$40.00
12A	106663	ATL Applications	9/21/2009	$40.00
13A	106664	ATL Applications	9/21/2009	$40.00
14A	106665	ATL Applications	9/21/2009	$40.00
15A	106666	ATL Applications	9/21/2009	$40.00
16A	Lab Blank	ATL Applications	NA	$0.00
16B	Lab Blank	ATL Applications	NA	$0.00
17A	CCV	ATL Applications	NA	$0.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: CPSC Indoor Air Monitoring/13297

BILL TO: Accounts Payable
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

Analysis Code: Other GC

TERMS:

Reporting Method: ATL Application #61 NO2-Radiello 166

SAMPLE RECEIPT SUMMARY Continued

Client	**Phone**	**Date Promised:**	
		Date Completed:	
		Date Received:	
	Fax	**PO#:**	
		Project#:	
Sales Rep:		**Total $:**	$ 675.00
		Logged By:	MW

Fraction	Sample #	Analysis	Collected	Amount$
Misc. Charges	eCVP (15) @ $5.00 each.			$75.00

Note: Samples received after 3 P.M. PST are considered to be received on the following work day.
Atlas Project Name/Profile#: CPSC Indoor Air Monitoring/13297

BILL TO: Accounts Payable
Environmental Health & Engineering, Inc.
117 Fourth Avenue
Needham, MA 02494

Analysis Code: Other GC

TERMS:

Reporting Method: ATL Application #61 NO2-Radiello 166

Other Records

Air Toxics LTD.
Laboratory Services Since 1989

Method : ATL Application #61 NO2-Radiello 166

CAS Number	Compound	Rpt. Limit (ug)
10102-44-0	Nitrogen Dioxide	1.0

@Air Toxics Ltd.

DATA REVIEW CHECKLIST

Work Order #: 0909552A

A_1	A_2	R	T	M	Q	
☐	☐	☑	☐	☑	☐	Analysis/Reporting vs. Project Profile/SOP requirements checked (i.e. 100% Dups, J-Flag to MDL, etc)
		☑	☐	☑	☐	The final report has the correct reporting list, special units, and header info.
		☐	☐	☑	☐	Lab Narrative is correct (proper method & description/Receiving & Analytical notes correct)
		☑	☐	☑	☐	Sample Discrepancy Report (SDR) is completed
☐	☐	☑	☐	☐	☐	Corrective Action issued - #
☐	☐	☐	☐	☑	☐	Unusual circumstances have been documented in the notes section below

LUMEN *validation report present and initialed* ***CIRCLE (YES / NO)***

☐	☐	☑	☐	☑	☐	Lab Blank, CCV, LCS and DUP met QC criteria
☐	☐	☑	☐	☑	☐	Hold time is met for all samples
		☑	☐	☑	☐	Appropriate data qualifier flags are applied
		☑	☐	☐	☐	Manual integrations for samples and QC are properly documented
☐	☐	☑	☐		☐	Samples analyzed within the project or method specific clock
		☑	☐			Retention times have been verified
☐	☐	☑	☐		☐	Appropriate ICAL(s) included
		☐	☐	☑	☐	At least one result per sample is verified against the target quant sheets/raw data
☐	☐	☑	☐		☐	Dilution factor correctly calculated (sample load volume, syringe and bag dilutions, can pressurization(s))
☐	☐	☑	☐			Correct amount of sample analyzed (i.e. sample not over-diluted)
		☑	☐			Spectra verified - documentation of spectral defense included (Section 5A of eCVP pkg)
		☑	☐			TICs resemble reference spectra
		☑	☐			TICs between duplicate samples are consistent
☐	☐	☑	☐	☑	☐	Checked samples for trends (i.e. Influent vs. Effluent, Field Dups, Field/Trip Blank, etc.)
☐	☐	☑	☐			Data for multiple analyses of sample(s) has been evaluated for comparability of results
		☑		☑		Special units for all samples in the final report are correctly calculated
		☑	☐	☑		Manually entered results checked (i.e. TPH/NMOC)
☐	☐	☑				Chain of Custody verified for any special comments (i.e. different compounds/RLs, action levels)
		☑				Chain of Custody scanned correctly
				☐		Verify sample id's vs. chain of custody
		☑				Date MDL(s) performed per instrument(s) 9/21/09
☐	☐	☑				Samples pressurized w/ appropriate gas (N_2 or He) ☐ Other (i.e. Tedlar bag, cartridge, sorbent)
☐	☐	☑				Final pressure consistent with canister size (6L vs. 1L)
☐	☐	☑				Verify receipt pressures
☐	☐	☑				Verify canister ID #'s
		☐		☑		Final invoice amount correct (adjusted for TAT, Penalties, Re-issue Charges etc.)
			☐	☐		MDL date(s) present for all instruments utilized
		☐	☐	☑	☐	Client LUMEN report reviewed for accuracy and completeness

Notes: *(to include: noting samples with QA/QC problems, Blanks with positive hits, narratives, etc.)*

A/R:

M/Q:

A_1/A_2 (Analytical Review/Date)	R/T (Reporting Review/Date)	M (Management Review/Date)	Q (QA Review/Date)
A_1:	R:	M 10/13/09	
A_2:	T:		

Note (1): Please check all the appropriate boxes. Indicate "NA" for any statement that does not apply. Rev. 02/20/09

Note (2): Management reviewer and reporting reviewer must be separate individuals.